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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,542	02/27/2004	Frederic Scheer	112843-63	7084

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BELL, BOYD & LLOYD, LLP  
P.O. Box 1135  
CHICAGO, IL 60690

EXAMINER
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CHEN, VIVIAN

ART UNIT	PAPER NUMBER
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1773

MAIL DATE	DELIVERY MODE
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05/03/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/788,542

**Applicant(s)**

SCHEER ET AL.

**Examiner**

Vivian Chen

**Art Unit**

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2007 and 21 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 11-12, 14-16, 18-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11, 12, 14-16 and 18-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date, \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

1. Claims 7-10, 13, 17, 28-30 have been cancelled by Applicant in the Amendment filed 10/5/2005.

### ***Specification***

2. The amendment filed 1/24/2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the newly added claim limitation (e.g., claims 1, 11, 21, 23, 26) reciting an organic peroxide content of up to and including 5% by weight; the newly added claim limitation in claim 25 reciting an organic acid content of up to and including 5% by weight.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Rejections - 35 USC § 112***

3. Claims 1-4, 6, 11-12, 14, 16, 18-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention for the reasons stated above in the objection to the amendment filed 1/24/2007 under 35 U.S.C. 132(a). The disclosure as originally filed fails to provide support for an organic

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peroxide up to *and including* 5 wt%, and further fails to provide support for the required presence of organic acids.

4. The rejections under 35 U.S.C. 112, second paragraph, in the previous Office Action has been withdrawn in view of Applicant's amendments filed 1/24/2007.

***Claim Rejections - 35 USC § 103***

5. Claims 1-6, 11-12, 14-16, 18-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over CHEN ET AL (US 5,756,651);  
in view of GRUBER ET AL (US 5,594,095);  
and in view of MOHANTY ET AL (US 6,869,985) or KRISHNAN ET AL (US 5,500,465).

CHEN '651 discloses polylactide-based compositions comprising polylactide, 3-40 wt % polycaprolactone, 5-20 wt% plasticizer (e.g., monocarboxylic esters such as adipate esters), and 0.5-10 wt% antiblocking agent (e.g., talc). The compositions are melt processible at typical temperatures of 180 C. (line 42-53, col. 3; line 60, col. 4 to line 5, col. 5; line 37, col. 5 to line 20, col. 6; line 12-20, col. 7; line 60-63, col. 8; line 44-50, col. 9) However, the reference fails to explicitly disclose the use of polylactides in multilayer structures.

GRUBER ET AL '095 discloses that it is well known in the art to use biodegradable polylactide resins and blends as a layer in a laminate (e.g., as a coating for paper) and/or as foamed articles. The reference further discloses that it is well known in the art to incorporate free radical initiators (e.g., organic peroxides) to polylactide resins after polymerization in order

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to improve rheological properties (line 24-31, col. 5; line 15-24, col. 25; line 6-33, col. 28; line 59, col. 28 to line 34, col. 29; line 10-25, col. 31; Example 11, 13)

MOHANTY ET AL and KRISHNAN ET AL both disclose that it is well known in the art to incorporate peroxides into biodegradable polymeric mixtures containing both polylactide resins and polycaprolactone resins in order to improve rheological properties such as melt strength and other physical properties. (MOHANTY ET AL, line 15-30, col. 2; line 10-13, col. 8) (KRISHNAN ET AL, line 25-40, col. 6; line 25-38, col. 9)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize the biodegradable polylactide compositions disclosed in CHEN '651 in conventional biodegradable film applications such as paper coatings and/or foamed articles as disclosed in GRUBER ET AL '095 suitable for use in the production of commonly known disposable food service articles (e.g, plates, cups, etc) (claims 12, 22, 24, 27). It also would have been obvious to optionally add effective amounts of organic peroxides to the disclosed polylactide resin-based composition (claims 5, 15) in order to improve rheological properties and melt processing characteristics of the composition. With respect to the presence of peroxides and/or copolyesters with adipic acid and/or mono-esters, claim language such as "less than 5%", "up to 5%", "less than 2%" all encompass the value of 0%. Since the minimum amount of said components required in the claimed composition can be 0% (i.e., the specified components are deemed to be optional), prior art compositions containing 0% peroxide and/or copolyesters with adipic acid meet the compositional limitations as recited in the present claims.

*Response to Arguments*

6. Applicant's arguments filed 1/24/2007 and 2/21/2007 have been fully considered but they are not persuasive.

(A) Applicant argues that the newly added claim language "in an amount up to 5% by weight" wherein the organic peroxide is added to a mixture of the two polymer components, require the presence of the organic peroxide. However, as previously noted, with respect to the presence of peroxides, claim language such as "up to 5% by weight" encompass the value of 0%. Since the specification does not explicitly state that the organic peroxides are an essential component in the poly(lactic acid) and polycaprolactone mixture (e.g., by discussing and disclosing compositions which do not contain organic peroxides), the organic peroxide is reasonably deemed to be an optional component. The process limitation relied upon Applicant (e.g., "wherein the organic peroxide is added to a mixture of said poly(lactic acid) and poly(epsilon caprolacton)", etc.) is applicable *if* the organic peroxide is present and does not in itself inherently require the presence of organic peroxide. Furthermore, as indicated in the above rejection, GRUBER ET AL '095 and MOHANTY ET AL and KRISHNAN ET AL all disclose that it is known in the art to incorporate peroxides in already formed polylactide resins and/or polycaprolactone resins (i.e., after polymerization) in order to enhance the resins' rheological properties.

*Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (571) 272-1506. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

The General Information telephone number for Technology Center 1700 is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 27, 2007



Vivian Chen  
Primary Examiner  
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